Remarks

This response is being filed to the outstanding office action dated January 4, 2005. Applicants wish to thank the examiner for allowing claims 9-18, 26-35 and 39-41 and allowing claims 7, 8, 24 and 25 if rewritten in independent form.

The applicants note that claims 1-6 and 19-21 were rejected under 35 U.S.C. 102(b) as being anticipated by Kellar (4,774,572) and that claims 22-23, 36-38 were rejected under 35 U.S.C. 103 as being unpatentable in view of Kellar.

Claim 1 requires adaptive filtering as do each of the independent claims 19, 20, 21, 22 and 36 (wherein smoothing and interpolating are forms of filtering). The applicants wish to point out that the term "adaptive filtering" is defined within the description and means that "the filter changes dependent upon a characteristic of the source image" as stated at page 6 lines 11-12. The application further states on page 6 that an example of adaptive filtering is a filter that changes depending upon the location of the data being filtered within the source image. Thus, an adaptive filter changes dependent upon a characteristic within the source material and is therefore a data-driven or content-driven filtering process.

The Kellar patent relates to video scan conversion and more specifically to the conversion of data obtained from a line scanner mounted on an aircraft. The terrain data that is scanned is turned into video. It is often desirable to zoom in on a particular section of an image and to roam over part of the total area of the image. The Kellar patent attempts to preserve the original resolution when "zooming" or "roaming" is selected by the user which was not possible in the prior art. Upon such a request (for zooming or roaming), the operation of the scan converter is modified to utilize the video signals at

full scan resolution that are stored in bulk storage. See Fig. 1 The signals from the bulk store are processed "to enlarge the scale of the particular aspect of the field of view to be processed. Such initial processing may involve interpolation." See col. 3 lines 49-51. The system stores portions of the video signals from the input at full resolution (of the sensor) in order to give the effect of zooming. See Col. 3 lines 40-43. The signals are fed to the converter from a "bulk store" rather than directly from the VTR (video tape recorder/reader) when zoom and roam are desired.

To achieve this, the scan converter is arranged to carry out "adaptive interpolation or filtering". See col. 3 line 57-59 Here, however, "adaptive" is just relative to the "mode of operation selected at any particular time." See Col. 3 lines 56-60. As a result, the filtering is not adaptive in the sense that it depends upon a characteristic of the data, rather the term adaptive is used to imply that the filtering is adaptive because the filtering can be changed based upon the needs of the user.

Further, the filter coefficients for interpolation are not space-variant and do not depend on the input source signal (e.g., the direction and magnitude of the gradient at input image locations). As stated, the adaptation is determined based on the desire of the user of the Keller system. The user rather than the data itself causes a change in the process used for filtering. Thus, Keller does not perform adaptive filtering as is understood in the present patent application.
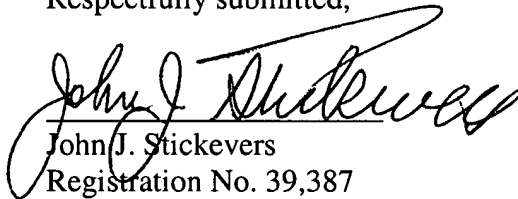
In addition, Keller does not perform format conversion from one format to another format. The format (aspect ratio and numbers of rows and columns) of the data is not changed in Kellar. Kellar simply processes the signals in the storage device "to give the effect of zooming in on part of or roaming over the rectilinearized image" by

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preserving the maximum possible resolution. The maximum possible resolution for Kellar is the resolution of the sensors that sensed the image. As a result, Kellar does not convert the image to a higher resolution and does not perform upconversion as required by some of the claims.

As a result, independent claims 1, 19, 20, 21, 22, and 36 are allowable. Similarly dependent claims 2-6 and 23, 37 and 38 are also allowable for at least the same reasons.

It is believed that a two month extension of time is required for this application. If any additional fees are required for the timely consideration of this application, please charge deposit account number 19-4972.

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